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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHAN, SAI MING

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,731	Applicant(s) LEE ET AL.	
	Examiner Sai-Ming Chan	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to an abstract idea. Claims 1-7 state a protocol embodying system or method in the GGSN. Since a protocol could be considered an abstract idea, the subject matter claimed in Claims 1-7 are deemed abstract idea. Appropriate correction to the specification is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating

obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eriksson et al. (U.S. Patent Publication # 20020141393)**, in view of **Chaudhary et al. (U.S. Patent # 7155526)**.

Consider **claim 1**, Eriksson et al. clearly disclose a protocol embodying system converting user data into IP packets and converting IP packets into user data (paragraph 0059 (tunneled, IPunUDP)), the protocol embodying system in the GGSN (paragraph 0095 (GGSN)), including a GPRS (general packet radio service) network (paragraph 0092 (GPRS)), and a protocol of a transfer layer (fig. 9 (IP)) wherein PDN (public data network) (fig. 9 (TCP)) is connected to the GPRS network (fig. 9 (UDP)), and in which the PDN transmits the IP packets to the outside for the GPRS network, the protocol embodying system comprising:

an IP layer provided between the GPRS network and the PDN (fig. 9 (IP), paragraph 0082), for performing muting between the two networks (fig. 9, paragraph 0082), and performing routing between the protocols of the first and second network

layers and the transfer layer protocol on the GPRS network (fig. 9 (link interface), paragraph 82), and

a GPRS_tunneling protocol unit (GTP-U) (fig. 18 (tunnel synthesizer), paragraph 0085 (tunnel type)) converting back and forth the IP packets into tunnel messages using a GPRS tunneling protocol (paragraph 0059 (tunneled, IPunUDP)); and

a virtual driver (fig. 18 (device driver), paragraph 85) provided on the lower part of the IP layer (fig. 18) for performing routing of IP packets (fig. 18 (tunnel synthesizer and routing algorithm)) back and forth to the PDN via the IP layer (paragraph 0059 (IP packet sent as is)) and performing routing IP packets back and forth to the GPRS tunneling protocol unit (paragraph 0059 (tunneled, IPunUDP)) from the virtual driver wherein the virtual driver is operable as the lower interface of the IP layer (fig. 18 (IP stack on top of device driver)).

However, Eriksson et al. do not specifically display first and second layers of PDN and GPRS. In the same field of endeavor, Chaudhary et al. clearly disclose first and second layers of PDN and GPRS (fig. 1 (Physical layer and Data Link layer), col. 1, lines 53-55, col. 2, lines 12-17 (wlan and GSM))

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to demonstrate a protocol embodying system, as taught by Eriksson, and show the first and second layers of PDN and GPRS, as taught by Chaudhary, so that system configuration will be more efficient.

Consider **claims 2 and 3**, and **as applied to claim 1 above**, Eriksson et al. clearly disclose a protocol embodying system, wherein the virtual driver is connected to

the IP layer (fig. 18 (device driver), paragraph 85) so that the IP packets are output to the PDN through the protocols of the PDN when the data transmitted from the GPRS network are converted into the IP packets through the IP layer, the transfer layer, and the GPRS tunneling (paragraph 0059 (tunneled, IPunUDP)).

However, Eriksson et al. do not specifically display first and second layers of PDN and GPRS. In the same field of endeavor, Chaudhary et al. clearly disclose first and second layers of PDN and GPRS (fig. 1 (Physical layer and Data Link layer), col. 1, lines 53-55, col. 2, lines 12-17 (wlan and GSM))

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to demonstrate a protocol embodying system, as taught by Eriksson, and show the first and second layers of PDN and GPRS, as taught by Chaudhary, so that system configuration will be more efficient.

Consider **claim 5**, Eriksson et al. clearly disclose a protocol embodying method in the GGSN converting user data into IP packets and converting IP packets into User data (paragraph 0059 (tunneled, IPunUDP)), comprising:

when receiving a first data unit at a GGSN from a GPRS network, transforming the first data unit into first tunneled message (paragraph 0059 (tunneled, IPunUDP)) , and transmitting the first tunneled_message using protocols of first and second layers of the GPRS network to an IP layer (paragraph 0059 (tunneled, IPunUDP)), allowing tunneling of the first tunneled message to be canceled at a GPRS tunneling protocol using a protocol of a transfer layer so that a first IP packet from the first tunneled message to be directed to a virtual driver is generated (paragraph 0059 (tunneled, IPunUDP));

transmitting the first IP packet to the IP layer through the virtual driver (fig. 18 (device driver), paragraph 85), and allowing the IP layer to transmit the first IP packet to a corresponding node on a public data network_(PDN) (fig. 9, paragraph 0082); and allowing the PDN to output the received first IP packet to the outside through protocols (fig. 9, paragraph 0082).

However, Eriksson et al. do not specifically display first and second layers of PDN and GPRS. In the same field of endeavor, Chaudhary et al. clearly disclose first and second layers of PDN and GPRS (fig. 1 (Physical layer and Data Link layer), col. 1, lines 53-55, col. 2, lines 12-17 (wlan and GSM))

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to demonstrate a protocol embodying system, as taught by Eriksson, and show the first and second layers of PDN and GPRS, as taught by Chaudhary, so that system configuration will be more efficient.

Consider **claim 8**, and **as applied to claim 5 above**, Eriksson et al. clearly disclose a protocol embodying method further comprising:

allowing the virtual driver to perform routing of a second IP packet from the outside to the protocol of the transfer layer (fig. 18 (device driver), paragraph 85);

converting the second IP packet into a second tunneled message using the protocol of the transfer layer and transferring the second tunneled message through the IP layer of the GPRS network (paragraph 0059 (tunneled, IPunUDP)); and transforming the converted second tunneled message into a second data unit

using the GPRS network (fig. 18 (tunnel synthesizer), paragraph 0085 (tunnel synthesizer performs appropriate action)).

Consider **claim 6**, (currently amended) A protocol embodying method in a GGSN converting user data into IP packets and convert the IP packets into user data (paragraph 0059 (tunneled, IPunUDP)), comprising:

when receiving an IP packet at the GGSN from a PDN (public data network) (paragraph 0059 (tunneled, IPunUDP)), emitting the IP packet to an IP layer (fig. 9, paragraph 0082);

transmitting the emitted IP packet to a virtual driver (fig. 18 (device driver), paragraph 85), and allowing the virtual driver to transmit the emitted IP packet to a GPRS tunneling protocol of the GPRS network (fig. 18 (tunnel synthesizer), paragraph 0085 (tunnel synthesizer performs appropriate action)); and

converting the transmitted IP packet into a tunneled message (fig. 18 (tunnel synthesizer), paragraph 0085 (tunnel synthesizer performs appropriate action) , and outputting the tunneled message to the GPRS network through a transfer layer protocol, the IP layer (fig. 9, paragraph 0082),

wherein the tunneled message is converted into user data through the transfer layer, the IP layer (paragraph 0059 (tunneled, IPunUDP)).

However, Eriksson et al. do not specifically display first and second layers of PDN and GPRS. In the same field of endeavor, Chaudhary et al. clearly disclose first and second layers of PDN and GPRS (fig. 1 (Physical layer and Data Link layer), col. 1, lines 53-55, col. 2, lines 12-17 (wlan and GSM)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to demonstrate a protocol embodying system, as taught by Eriksson, and show the first and second layers of PDN and GPRS, as taught by Chaudhary, so that system configuration will be more efficient.

Consider **claim 9**, and **as applied to claim 6 above**, Eriksson et al. clearly disclose a protocol embodying method further comprising:

when acquiring another user data at the GGSN from the GPRS network, sending out another message by tunneling the another user data into the another message to the IP layer (fig. 9, paragraph 0082), allowing tunneling of the another tunneled message to be canceled at the GPRS tunneling protocol through the transfer layer protocol (paragraph 0059 (tunneled, IPunUDP)) to generate another IP packet to be directed to the virtual driver (paragraph 0059 (tunneled, IPunUDP)) and routing the another IP packet to the IP layer with the virtual driver (fig. 18 (device driver), paragraph 85); and

transmitting the another IP packet to the IP layer using the virtual driver (fig. 18 (device driver), paragraph 85), and allowing the IP layer to transmit the another IP packet to a corresponding node on PDN (fig. 9, paragraph 0082).

However, Eriksson et al. do not specifically display first and second layers of PDN and GPRS. In the same field of endeavor, Chaudhary et al. clearly disclose first and second layers of PDN and GPRS (fig. 1 (Physical layer and Data Link layer), col. 1, lines 53-55, col. 2, lines 12-17 (wlan and GSM)).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of invention to demonstrate a protocol embodying system, as taught by Eriksson, and show the first and second layers of PDN and GPRS, as taught by Chaudhary, so that system configuration will be more efficient.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eriksson et al. (U.S. Patent Publication # 20020141393)**, in view of **Chaudhary et al. (U.S. Patent # 7155526)**, and in view of **Giustina et al. (U.S. Patent Publication # 2003000248)**.

Consider **claim 4**, and **as applied to claim 1 above**,
claim 7, and **as applied to claim 6 above**,
Eriksson et al., as modified by Chaudhary, clearly disclose a protocol embodying system as described.

However, Eriksson et al., as modified by Chaudhary, does not specifically display dynamic and static addresses of the mobile stations.

In the same field of endeavor, Giustina et al. clearly disclose a reporting process (figs. 5, 6&7), paragraphs 0045, 0049 and 0058) with the IP in advance in order to process the dynamic and static addresses (paragraph 0012 (dynamical and static addresses)) of the mobile stations (fig. 2 (MS)) belonging to the GGSN (fig. 2 (GGSN)) during the process of transmitting the IP packets provided from the PDN to the GPRS network (fig. 2 (Gi), paragraph 0005 (pdu sent from pdn to ms)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to demonstrate a protocol embodying system, as taught by

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Eriksson, and show dynamic and static addresses of the mobile stations, as taught by Giustina, so that system configuration will be more efficient.

Response to Amendment

Applicant's arguments filed on April 10, 2008, with respect to claims 1, 5 and 6, on pages 7-12 of the remarks, have been carefully considered.

In the present application, Applicants basically argue, that Giustina et al. do not teach or suggest "bi-directional virtual driver". The Examiner has modified the response with a new reference which combines with Eriksson to provide "bi-directional virtual driver". See the above rejections of claims 1, 5 and 6, for the relevant interpretation and citations found in Chaudhary et al., disclosing the limitation.

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Sai-Ming Chan whose telephone number is (571) 270-1769. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/Sai-Ming Chan/
Examiner, Art Unit 2616

June 16, 2008
/Seema S. Rao/

Supervisory Patent Examiner, Art Unit 2616

